INTERNATIONAL HARVESTER

FARM

SPRING 1971

Planter revolution

The planter that promises to revolutionize planting

By Steve Rhea

The first time you see the CYCLO™ planter confirms everything you've heard about its being the most revolutionary concept in planting.

Its outward appearance tells all—in place of individual seed boxes over each row are long black tubes extending from a centralized seed hopper, holding enough seed corn for a half day's planting.

The heart of the system is a PTO-powered blower. Turning at 4,000 rpm and supplying 10 ounces of air pressure per square inch inside the seed drum, the blower introduces a totally new approach to seed metering.

Compared to conventional planters, the CYCLO planter is unconventional. But that is what was intended by International Harvester engineers, who began working with this air-powered seed metering and delivery system two years ago.

Recognizing a need for a better system of metering and placing seed in a furrow, IH engineers under the direction of Jack Bauman, chief engineer of row-crop equipment, set out to improve planter design.

Testing a variety of alternatives to the plate planter prior to evaluating the forced air concept, they discarded each idea because of a limiting factor. Vacuum systems, for example, using a reversed air-pressure principle to pick up seed, proved unable to handle various seed sizes and shapes and were subject to plugging.

Mechanical finger systems were eventually rejected because of their complicated internal mechanism with the chance of failure compounded by each seed row. Also, the accumulation of dirt and the difficulty of adapting the mechanism to crops other than corn caused IH engineers to search for a better approach.

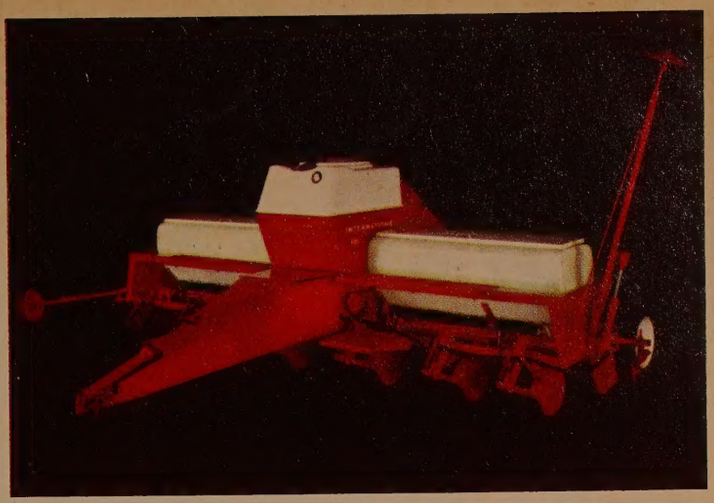
Although IH had experimented with air pressure as a metering system, a totally new concept was introduced by two farmer-inventors, Leo and Claude Loesch of Kimball, Minnesota.

Like other grain farmers with corn acreages to plant each spring, the Loeschs recognized certain shortcomings in conventional planters. After viewing a working model of the air-powered planter in the Loeschs' Minnesota farm shop, Bauman and IH planter sales supervisor, Chuck Miller, were convinced that this approach could be developed into a practical commercial machine.

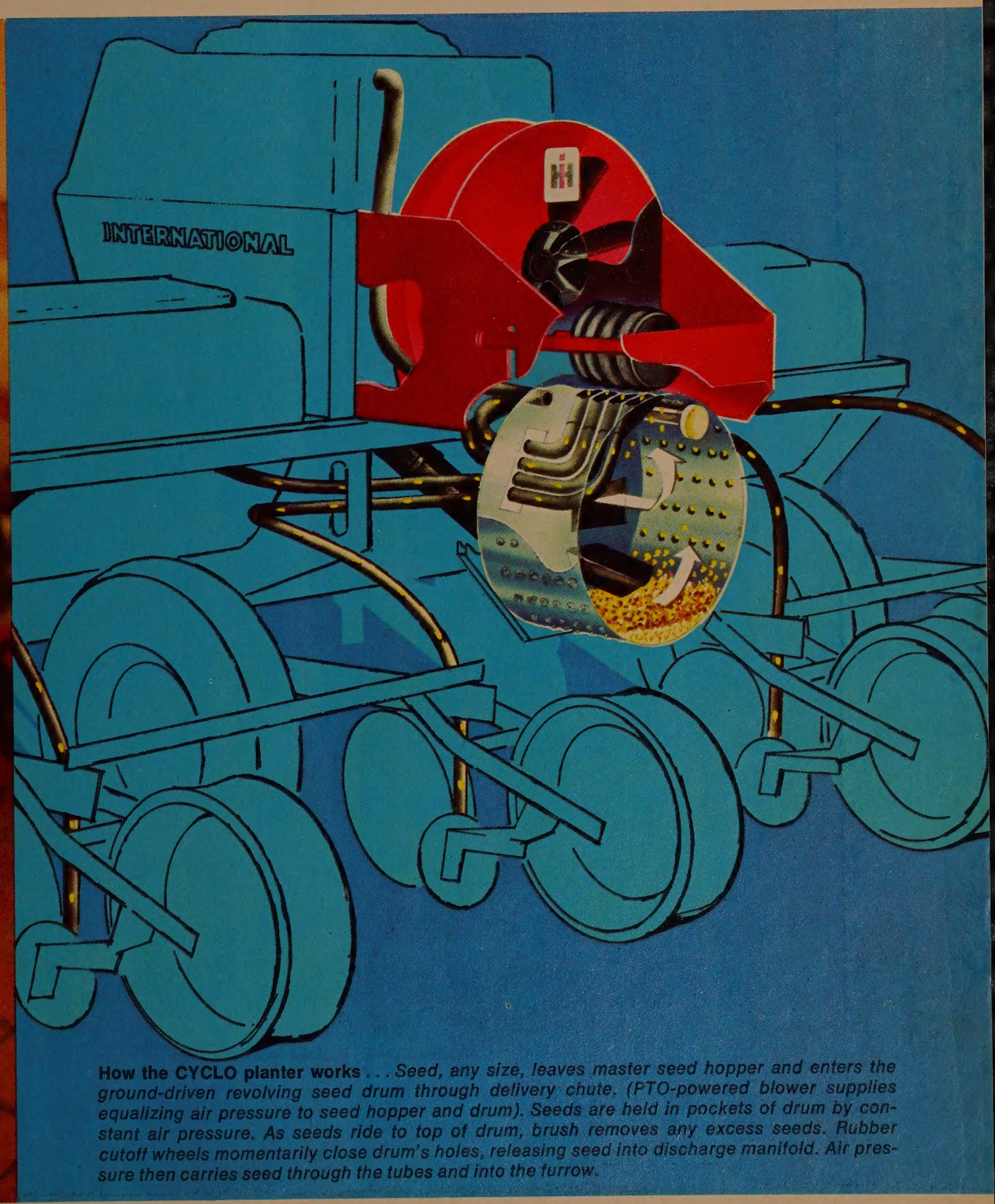
By May 1969, three months after observing the new planter concept, IH had acquired patent rights and begun extensive development testing.

Continued on page 6

With a totally new concept to seed placement, the new IH CYCLO planter may well write the last chapter in planter history.



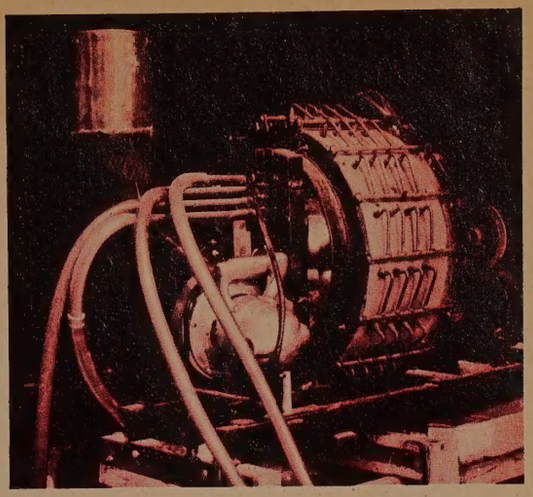
Jack Bauman (right), chief planter engineer, and Vedick Erickson, hold revolutionary seed drum that IH engineers perfected, introducing a new era to planter history.

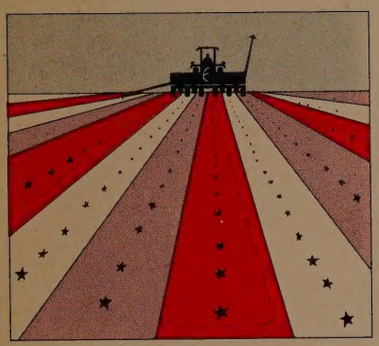


How the CYCLO planter works . . . *Seed, any size, leaves master seed hopper and enters the ground-driven revolving seed drum through delivery chute. (PTO-powered blower supplies equalizing air pressure to seed hopper and drum). Seeds are held in pockets of drum by constant air pressure. As seeds ride to top of drum, brush removes any excess seeds. Rubber cutoff wheels momentarily close drum's holes, releasing seed into discharge manifold. Air pressure then carries seed through the tubes and into the furrow.*

Farmers with an idea

Leo and Claude Loesch envisioned a new planter that could accurately plant a wide variety of ungraded seeds through the same metering system. Result: the forerunner to the new IH CYCLO planter.





Like other farmers, Leo and Claude Loesch have learned to improvise. Managing a 300-head cattle-feeding operation and raising 150 acres of corn in partnership gives the Loeschs' ample opportunity to test their ingenuity.

Most of the Loeschs' ideas originate out of necessity. Neither Claude nor Leo has an engineering background, but both are the kind of farmers who constantly build, change and modify equipment.

Early in the 1960's, Leo and Claude began toying with an idea that was their most ambitious undertaking to date. Their goal: Design a planter that could accurately plant corn, or any seed crop, without the adjustments of conventional planters.

Engineers from various farm equipment companies, International Harvester included, were working to perfect a simplified planter concept. But to date, none had drastically changed planter design.

Knowing little of what major manufacturers were planning, the Loeschs looked for a design that would, as Claude later explained, "simplify planting." As with any of their decisions, both agreed upon certain standards they wanted in a planter.

"For one thing," recalls Claude, "having to change planter plates for each row and matching them to different seed grades took up too much time." So they looked for a system that would get the planting mechanism up out of the row.

Another time-taker, as far as the Loeschs were concerned, was the job of filling each individual planter box. A centralized seed hopper was included in their final design.

But the heart of the system, the concept that others had been unable to perfect, was an air-powered metering system.

The approach seemed overly simple: Fan-forced air, much like water in a minnow bucket, would try to escape. Kernels of corn blocking the air escape through the holes of a revolving drum would be held in place until the air pressure was released.

Working with this concept, the Loeschs spent their spare time in their farm shop developing the system. With the help of local machine shops, they perfected a seed drum.

The Loeschs applied for patent rights and began contacting major equipment manufacturers. Spring 1968, planting 150 acres, brought their first conclusive field tests, proving their idea would work. In 1969 and '70, they again planted their entire corn crop using the air-metering system.

But the contact with International Harvester that led to the purchase of patent rights began in 1969. Submitting their idea to IH, their concept was presented to Jack Bauman, chief planter engineer, and Chuck Miller, planter sales supervisor.

In their opinion, the Loeschs' idea warranted special attention. Together with A. W. Holton, then Works manager at Canton Works, Canton, Illinois, where the new planter would later be manufactured, Miller and Bauman traveled to the Loeschs' farm shop to view the planter.

They watched as Leo poured seed corn, ungraded and of various sizes and shapes, into one of several working models of the planter that the Loeschs' had constructed. The planter model's outward appearance lacked many of the refinements that IH engineers would later add. But the concept that Leo and Claude were about to demonstrate had the potential to change planter history.

When engaged, the drum began revolving, carrying seed upwards in the indented pockets. With unfailing accuracy, seeds dropped into the manifold.

This was the idea that IH had sought in a planter. Thus, in a few brief years, the ingenuity of two farmers' imagination was about to receive the engineering refinements, making it the most revolutionary advancement in seed placement in more than 200 years. *By Steve Rhea*

Claude (left) and Leo Loesch at their Kimball, Minnesota farm.

Six-row prototype of CYCLO planter undergoing North Carolina field tests.

IH engineers' first concern was to test accuracy and reliability of the air-drum principle in handling seed corn. Second, was this system adaptable to other crops? Bauman and his engineers wanted to assure themselves that any new planter they developed could handle a variety of seeds, not just corn alone.

The air-drum planter concept looked promising in corn, and showed potential in other crops. The next obstacle: develop a system of eliminating possible delivery of doubles (excess seed) in the drum pockets. Through a series of tests, IH engineers developed a permanently mounted cutoff brush, eliminating the possibility of delivering doubles to the discharge manifold.

The new planter received top priority and development proceeded at a rapid pace. By spring 1970, IH engineers were ready to field test several prototypes that offered every advantage they had been seeking in a planter.

In these test machines, a centralized seed-delivery system fed up to 4 or 6 rows and promised to handle even more rows, potentially obsoleting all previous planters. The end product contains one master 11-bushel capacity fiberglass seed hopper—enough seed to plant up to 40 acres of corn nonstop.

A wide variety of ungraded corn, soybeans or milo, and potentially other crops, can be planted with an accuracy never before thought possible. One stainless-steel planter drum for each crop replaces all planter plates. To change from corn to beans, for example, the only adjustment required is loosening one bolt, slipping off the corn drum and replacing with a bean drum—all accomplished in less than three minutes.

Best of all, the planter offers the ultimate in planter reliability. Only three moving parts are used to power the air-metering system: (1) the PTO-driven blower (the only tractor-powered mechanism), (2) a ground-driven drum, and (3) one set of rubber cutoff wheels that place the seed into the discharge manifold air stream.

The 400 Series CYCLO planter offers the ultimate in simplicity. Compared to any current planter, it has fewer critical moving parts that can cause downtime or costly repairs.

Farm tests last spring confirmed what IH engineers had hoped from the start: The planter's overall simplicity, reliability, accuracy and convenience impressed every farmer who tested it.

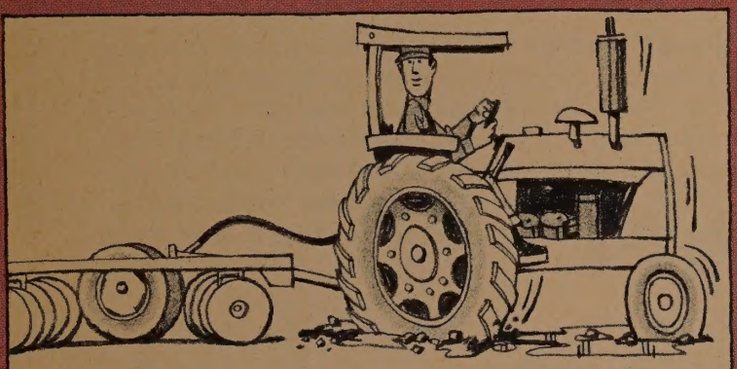
From the first spring tests in North Carolina to the farms of Illinois, where field tests were performed by farmers and seed companies, the satisfaction in the planter's mechanical simplicity and performance was unanimous. Every farmer who field-tested it indicated he wanted a CYCLO planter as soon as it became available.

As one hybrid seed corn representative put it: "We like it for a number of reasons. But most of all, it's red, it's simple and it works." ■

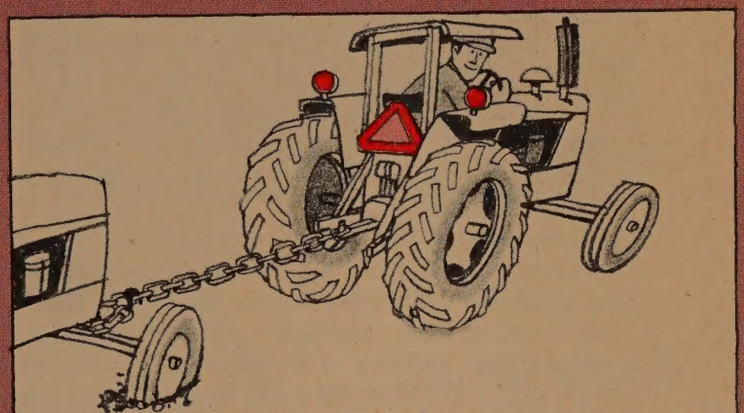
Six ways to make spring fieldwork safer

From engineering to the production line, your comfort and safety is one of our most important concerns. But no matter how much attention is given to design, there are hazards to operating any vehicle, including farm tractors.

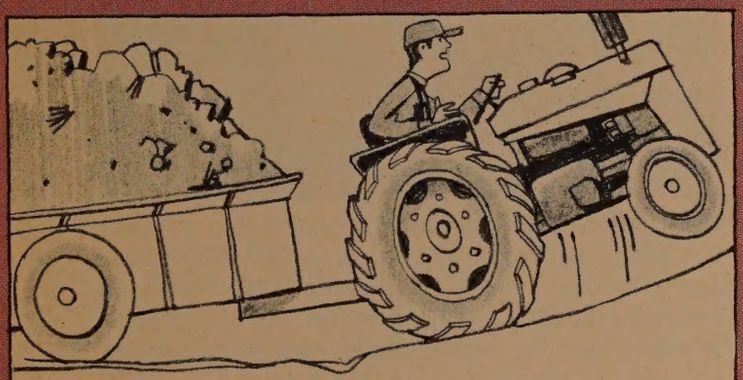
The following examples illustrate a few accident situations you may encounter this spring. Even though you or others who operate your tractors may be experienced operators, a review of these and other basic safety rules could save a life.



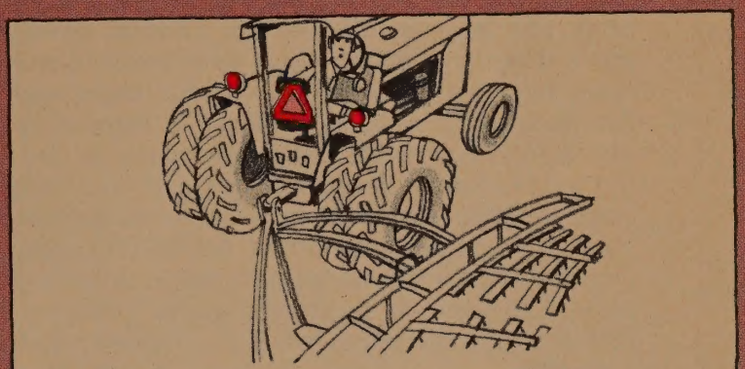
WHEN STUCK, BACK OUT
. . . and when you can't back out, get help. Don't chain blocks to drive wheels. Applying excess power too suddenly or using blocks can cause a backward upset.



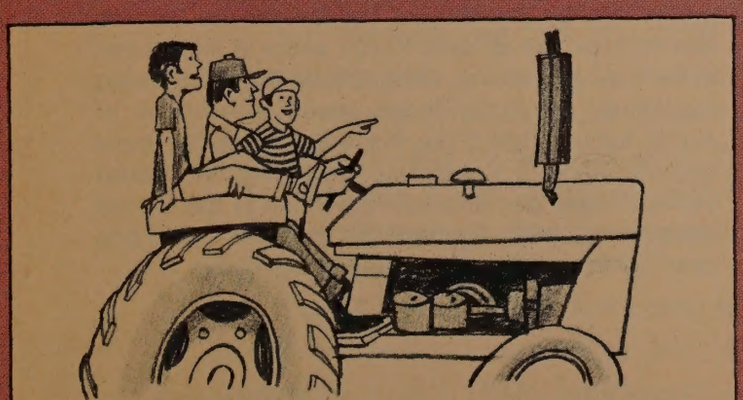
HITCH TO THE DRAWBAR ONLY
Never hitch to the axle or seat bracket—you're inviting a backward upset. Engage the clutch smoothly—avoid sudden acceleration.



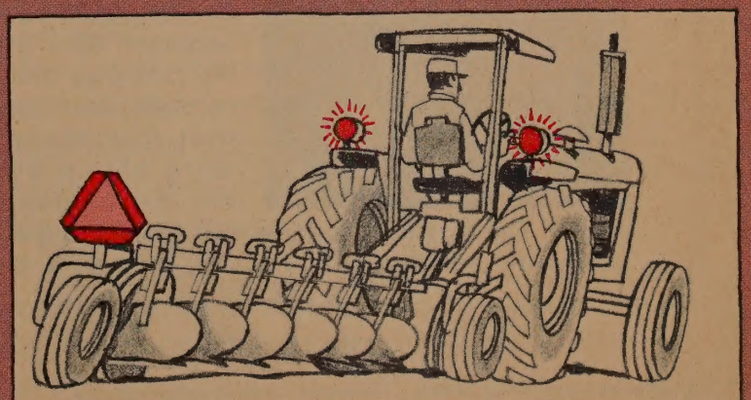
DON'T OVERWEIGHT THE DRAWBAR
Heavy loads on the drawbar increase your chance of upsets. Add front end weights for balance. Use extreme caution when crossing ditches or slopes. Don't accelerate rapidly.



AVOID TURNING TOO SHORT
Short turns, especially when pulling equipment with short hitches, can be dangerous. Approach turns slowly. Allow ample turning radius, especially when using duals or extended wheels.

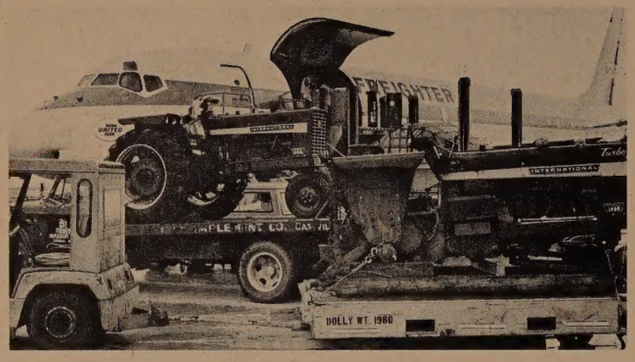


NO EXTRA RIDERS
Make this a firm rule and avoid a major cause of tractor accidents. Too often, accidents involve children. Tractors are designed only for the driver.



SMV EMBLEM, FLASHING LIGHTS WHEN TRANSPORTING
One third of all tractor accidents occur during transport. Be sure your tractors meet latest safety regulations. Protective frames, other safety equipment are designed to save lives.

newsaboutfarming



Flight to avoid blight. Last fall when it became evident that corn blight was a problem, Dick Metcalf, a seed producer from Glen Haven, Wisconsin, chartered a United DC-8 freighter to fly to Hawaii. The plane carried 80 tons of tractors, planters and varieties of blight-resistant corn, enough to plant a 600-acre tract in Kauai for this spring's seed corn.

Farm Equipment Industry receives vote of confidence. Secretary of the Department of Transportation John Volpe told Congress that at this time, he does not recommend Uniform Federal safety standards be established for farm tractors and machinery. He encourages self-regulation, and recommends the industry continue its stepped up efforts to reduce tractor-related accidents by promoting the use of safety devices and installing optional safety equipment as standard equipment. Last year Congress authorized the DOT to study tractor-related accidents on both public roads and farms, and report its recommendations. Volpe recommends a review of the industry's progress within five years.

AutoSow continues to show promise of reducing baby pig losses. In a recent North Carolina State experiment, 83% of the runt pigs that normally die in the first few weeks were saved by the mechanical mother. The pigs performed as well under the system as did healthy pigs raised by their natural mother. Devised by James Lecce (Summer 1969, IH FARM), AutoSow is a circular mechanical brooder containing a series of wedges in which pigs are placed 36 hours after birth. Pigs are kept disease-free and fed automatically.

Rent-A-Rig from IH. Here's how it works: You need a tractor, combine or other implement this spring, but don't want to tie up capital needed for other purposes. Now you can rent or lease equipment and pay for machine use only when you need it and still take advantage of possible tax savings. Your participating IH dealer can give you complete Rent-A-Rig system details.

Farm accidents hit hardest during the most productive years. Of almost 7,000 deaths, 600,000 injuries and $2 billion in financial losses in 1969, more than half happened to persons under 45. Men, often hired workers, have the highest accident rate. Machinery-related accidents account for almost 42% of all injuries and deaths, and nearly half of these involve tractor overturns—a strong argument for protective frames.

10,000-year-old seeds. Botanists in Canada have grown healthy plants from seeds believed to have lain dormant for at least 10,000 years in frozen soil in the Yukon Territory. Undoubtedly the oldest living organisms on earth, these seeds, specimens of Arctic lupines, are three times as old as the giant sequoia trees in California. Previously, the oldest seeds to have germinated were those of the sacred lotus found buried in a neolithic canoe in a peat bog near Tokyo in 1951. They were 2,000 years old.

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New 615 & 715 combines. So much capacity should cost more. It doesn't.

Why wait?

Check new International 615 and 715 power, prices and capacities against comparably sized combines.

You'll find that we're determined to give you more combine for every dollar you invest.

For example, we give you up to 107 hp in the 715. Up to 96-bushel capacity in the grain tank. Capacity features you can count on in any crop or condition.

Of course you get Quick-Attach platforms and corn heads. Variable speed cylinder and fan drives. Choice of belt propulsion or Hydrostatic All-Speed Drive.

Naturally, some things we wouldn't think of changing. Like our full-width threshing. Practically plug-free fin-and-wire straw racks. Opposed-action cleaning.

These new 615 and 715 combines can be equipped with 10½ to 18½-foot platforms, or 2-, 3-, and 4-row corn heads. See your International Harvester Dealer. Compare them against any other like-size combines. Then decide how you want your 615 or 715—finance, rent or lease.

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Weather: A SPECIALIZED REPORTING SERVICE FOR AGRICULTURE

By Herb Fleming

Is the soil warm enough to start planting? . . . Will I have time to get the hay in before it rains? . . . Are there potential insect or disease situations that may be affected by the weather? . . . Will my fruit trees need frost protection tonight? . . . Are conditions favorable for spraying?

Illustrated at the top of the next page are two examples of specialized local weather information that help you answer such questions. With timely, reliable information such as this, you can formulate or adjust critical plans to make the most of conditions as they exist — and as they are likely to exist for the next few days. These examples are excerpts from an actual weather advisory that was issued by the Indiana Agricultural Weather Service last May.

Indiana's operation is a good example of a typical Agricultural Weather Service. It starts in the Indianapolis office where the basic forecasts and advisories are prepared. There, incoming information from weather maps, teletype data and local observations are consolidated with information from each of 10 forecast areas of the state.

Agricultural scientists at Purdue University, working with the local Agricultural Weather Service office, analyze this information and apply it to specific Indiana farm situations. The resulting forecasts and advisories contain information having specific value to farmers in each of the 10 forecast areas.

This special farm-oriented weather information is then teletyped to approximately 100 subscribers in the state. Radio stations, TV stations and newspapers are the main subscribers, but other farm service organizations are joining to provide this important information to their customers.

The final link in the whole set-up is the farmer. Through this system, he receives detailed weather information and advice that he can apply to his own particular set of circumstances.

This farm-oriented weather service is successfully operating as part of a Federal Plan for a National Agricultural Weather Service. Currently, 12 areas of the United States are included and have well-established services in operation. In addition, a specialized fruit-frost service is provided in certain fruit growing areas of the country as a part of the total Agricultural Weather Service (see map).

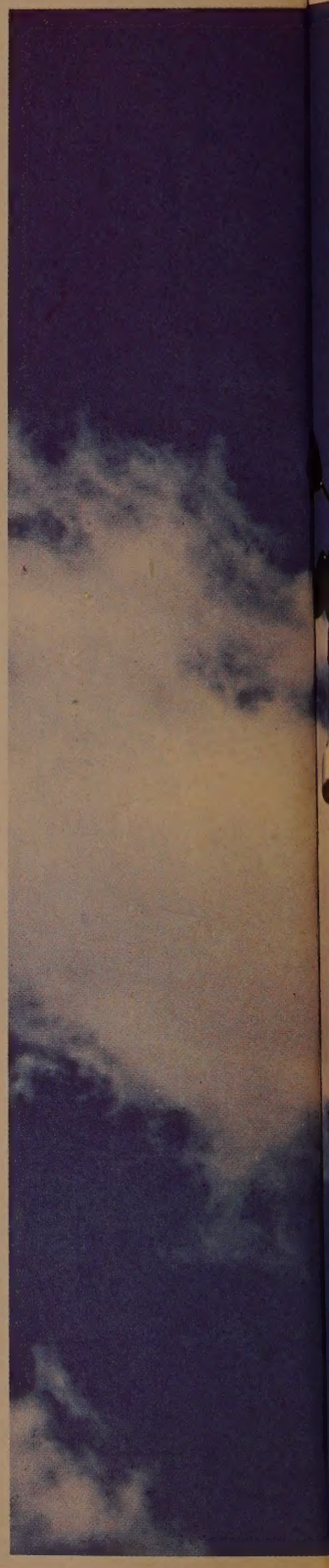
This highly specialized service is supported by a nationwide network of reporting stations plus information from balloon soundings and weather satellites. It's operated by the National Weather Service—formerly the U.S. Weather Bureau—by effective application of meteorological data to the farm know-how of federal and state agricultural specialists. Through cooperative joint action, detailed knowledge of such things as crop-weather relationships, life cycles of pests, and cultivation techniques is used to arrive at specific recommendations.

Three special agricultural advisories are issued each day, including weekends, with immediate problems of the local area in mind. These include advice on such critical operations as planting, pest control, irrigation, harvesting and defoliation. In each case, the advisory is tailored to evaluate the effects of past, present, and expected future weather conditions in order to help farm operators take necessary steps to minimize loss or damage due to bad weather, and to take full advantage of favorable conditions.

In addition to the three daily advisories, there are regular forecasts, a daily farm summary and outlook, a weekly weather and crop report, and special reports whenever critical weather situations occur. The latter include severe storm watch and warning information.

Orderly extension of the Agricultural Weather Service to the entire nation within 10 years is the aim of a 10-phase plan drawn up jointly by the USDA and the National Weather Service. Data supplied by directors of agricultural experiment stations provided the guidelines for establishing priorities. Naturally, regions with the most weather-sensitive farm enterprises will get top priority.

Full implementation of this plan will provide a basis for a more efficient agriculture throughout the entire United States — a big step forward in our ability to meet future demands of a rapidly growing world population.



ESSA WEATHER BUREAU [illegible] INDIANA

.... PREPARE FOR FROST TONIGHT OVER THE NORTHEASTERN TWO THIRDS OF INDIANA.....

[illegible] CENTER IN MICHIGAN WILL DRIFT SLOWLY [illegible]

[illegible] WILL RA[illegible]EN 4 TO [illegible]REES COLDER THAN THE FIVE FOOT LEVEL IN THE NORTHEAST AND 2 TO 4 DEGREES COLDER IN THE SOUTHWEST.

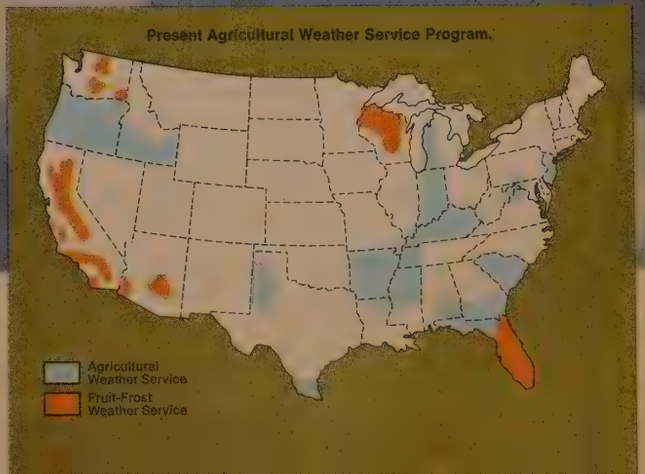
SPRAYING AND DUSTING..... FAVORABLE THIS EVENING AND THURSDAY FORENOON BECOMING MARGINAL THURSDAY AFTERNOON FOR SEVERAL HOURS AS MAX WINDS EXCEED 15 MPH. POOR FRIDAY DUE TO INCREASING WINDS.

PRECIPITATION AMOUNTS. NONE TONIGHT.... NONE THURSDAY....

This special agricultural weather observation station at Purdue University is one of 22 located throughout the state. These are in addition to other climatological stations of the National Weather Service.

Walter Stirm, Advisory Agricultural Meteorologist at Purdue, makes use of all available information and data to prepare timely specialized weather information for teletype distribution to subscribers.

Timely frost and freeze warnings sometimes enables growers to take necessary action to save a crop. Here, special gas-fired heaters protect orchard during a critical period.



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International 1456—built for turbo from the start. Toughest heavy tillage tractor going. A 131.80 hp* powerhouse that outworks, outlasts the others. With the speeds to match the job.

International 1026 Hydro brings high power (112.45*) and Hydrostatic Drive together for top productivity with big implements. Infinite speeds at full power. You work every job faster.

Our International diesels are so durable and rugged that many dealers have yet to handle a complete overhaul on our 806. And we introduced it more than six years ago. Today, you get this same reliable engine—plus many refinements, of course—in our big power Internationals.

There are many reasons for this durability. Such things as our exclusive Elotherm-hardened crankshafts, plus extra support from up to seven main bearings. You get heavier engine construction throughout, whether you select a turbo or a non-turbo tractor.

Stop in and see us. Let us help you finance, rent or lease the closest thing to a no-overhaul tractor engine.

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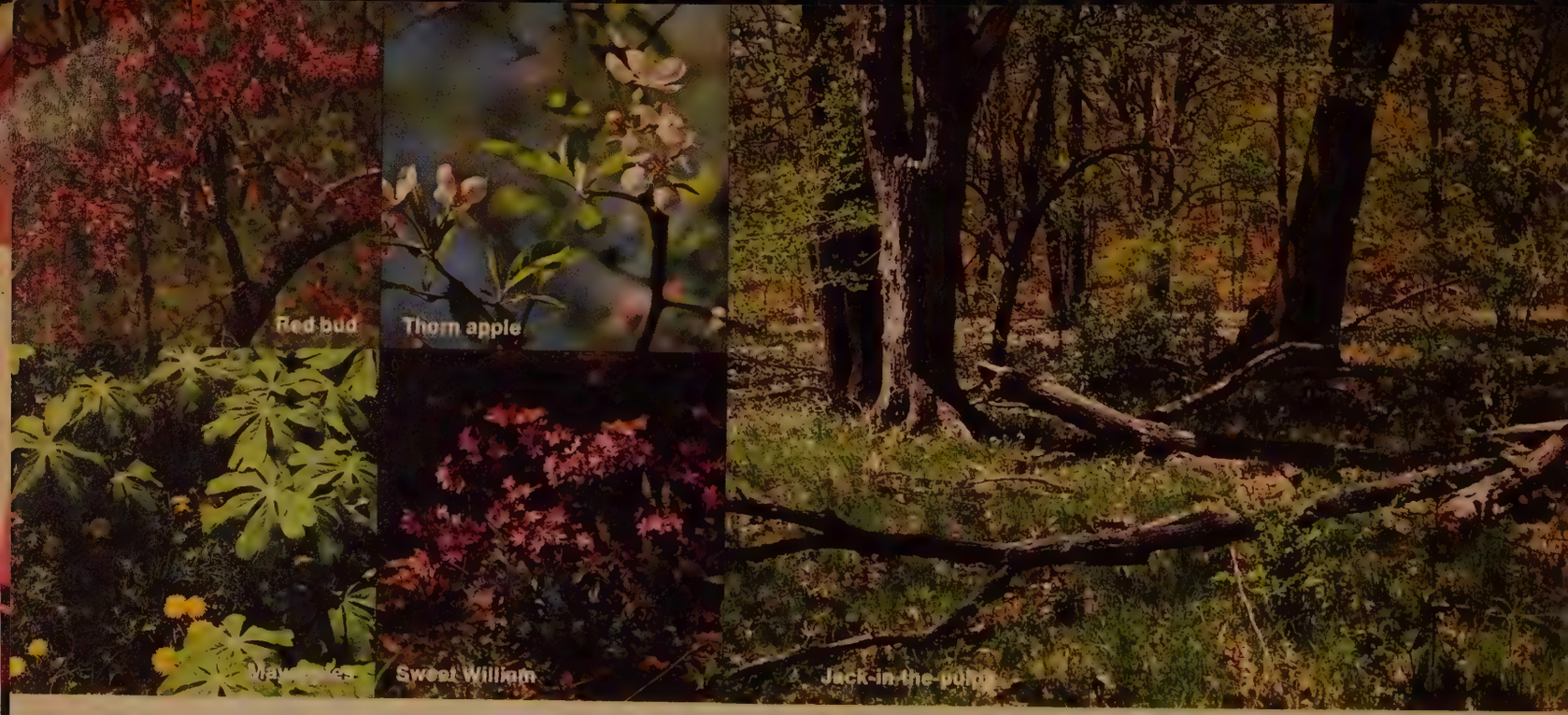
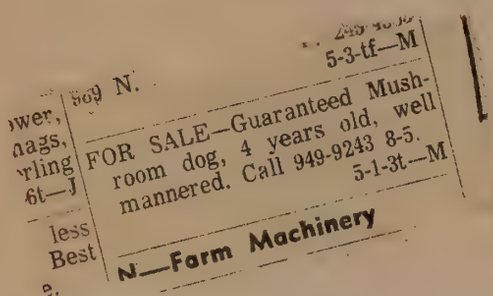
overhaul engines. Why wait?



Primer for mushroom hunting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...rling FOR SALE—Guaranteed Mush-
6t—J room dog, 4 years old, well
mannered. Call 949-9243 8-5.
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less
Best
N—Farm Machinery

Most life-long mushroom hunters in west-central Illinois who spotted this ad last spring in the Jacksonville Journal probably got a good laugh—all at the expense of a good-natured mushroom hunter whose phone number was listed by a practical-joking friend.

Even though mushroom hunters may joke about such fantasies as mushroom dogs and mushrooms big enough to require a chainsaw to bring them down, they take their pastime seriously.

If mushroom hunting is new to you, we'll explain. Mushroom hunters are a persistent breed who will drop what they are doing when mushrooms start a-poppin' to search the woodlands and pastures of the South and Midwest.

Morel, or "sponge" mushrooms as they're better known, are a delicious delicacy. Sliced and soaked overnight in a light brine, they are dipped in an egg batter, rolled in cracker crumbs or seasoned flour, and fried to a golden brown.

Once tasted, these mushrooms become a seasonal favorite, and the harvest sometimes becomes a business. Take the area near Chandlerville, Illinois, where residents hardy enough to pick and deliver the prized morel can sell an afternoon's work for $1.50 or more a pound.

Late April or early May signals the start of mushroom season. It isn't hard getting a dyed-in-the-wool mushroom hunter to talk about a "find," but don't expect him to share his favorite spot. To pry this information is like asking directions to a fisherman's favorite spot.

Mushrooms can be found anywhere, but it takes an experienced eye to spot them. Best spots are usually in open pastures, along creek banks, beneath elms or hidden under last year's leaves.

The season is short. Most hunters know the time has arrived when the red bud and dogwood burst into full bloom. Mayapples and jack-in-the-pulpit are other sure signs.

Mushrooming is no pastime for the man in a hurry. But there's one sure way to get a morel hunter excited—tell him the mushrooms are a-poppin'!

826 GEAR DRIVE DIESEL

Biggest bargain in the 90 hp class

Compare all you want—the 826 offers more features for your dollar . . . more power when you need it. And with the most competitive price tag in the 90-99 hp class.

Compare its powerful new 358 cu. in. high torque diesel engine on a chassis that weighs hundreds of pounds more than competitive tractors.

Or standard features like hydrostatic power steering. Smooth power disc brakes. Alternator. Dual-stage air cleaner. Dyna-life clutch. Adjustable front axle. Adjustable deluxe seat.

Or options like power shift twin-shaft IPTO (540/1000 rpm). Shift on-the-go Torque Amplifier and more.

When your dollar has to buy more tractor, you can't afford not to own the bargain International 826 Gear Drive.

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With Exclusive Hydrostatic Drive

Maybe you prefer the 826 with Hydrostatic Drive—one hand, no clutch, infinite speed selection at full load. Only International has it.

Hydrostatic Drive tractors can outwork any other tractor, regardless of the job. Just nudge the control lever, and push any PTO machine to its full capacity. Plow at higher average speeds. Or cultivate as fast as conditions allow.

Try our versatile 544 Hydro, 52 pto hp and 656 Hydro, 66 pto hp. Hydrostatic Drive is now available in our 826 Hydro, 84 pto hp, and 1026 Hydro with 112 pto hp and powerful 407 cu. in. turbo-diesel.

Give us an hour in the field to demonstrate Hydrostatic Drive. Prove to yourself how a Hydro tractor can handle work in less time.

Why wait

YOU CAN BUY, RENT OR LEASE AN 826 TRACTOR NOW.

A new technology called FLUIDICS

—WILL IT FIND A PLACE IN FARMING'S FUTURE?

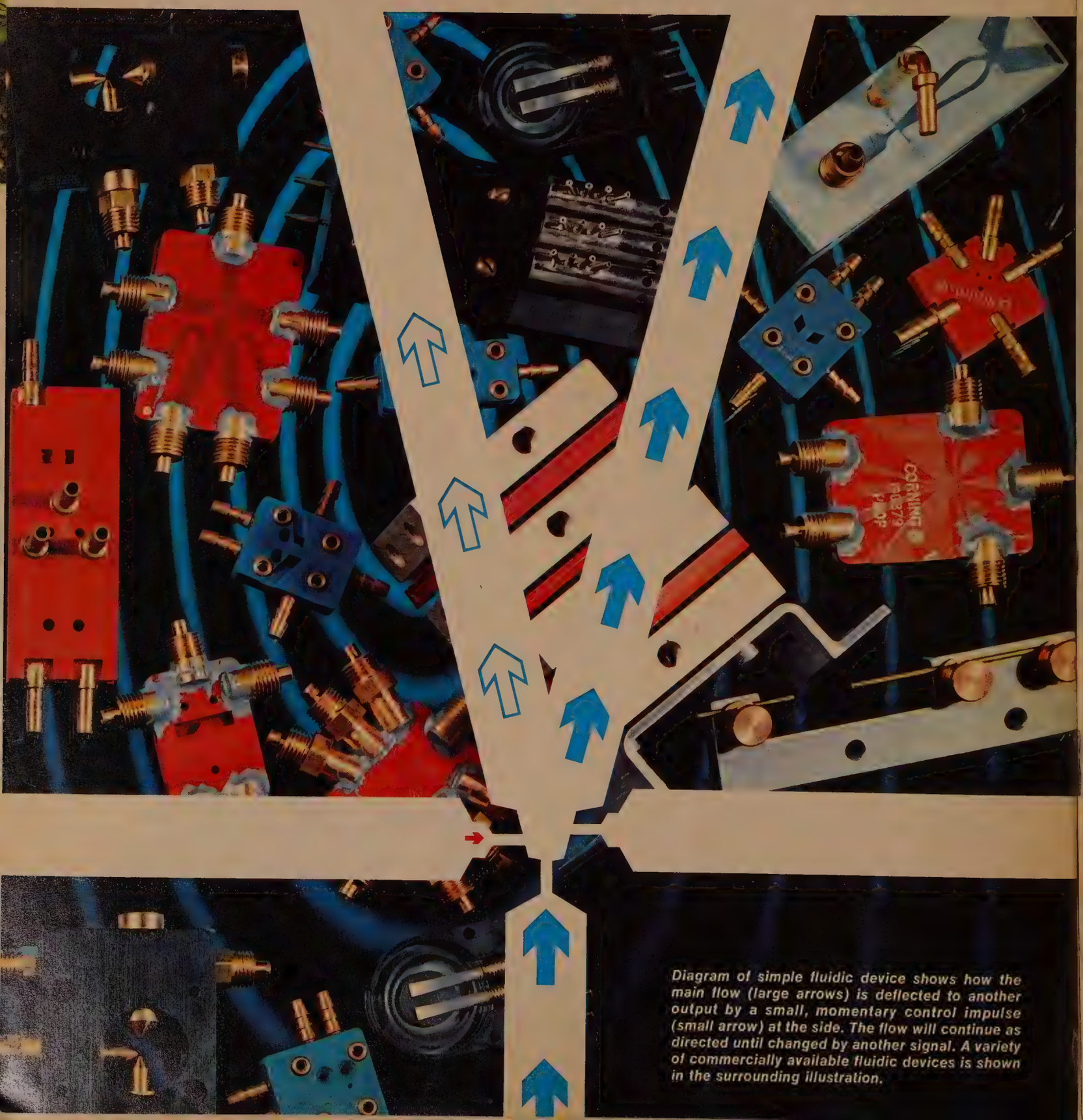

Diagram of simple fluidic device shows how the main flow (large arrows) is deflected to another output by a small, momentary control impulse (small arrow) at the side. The flow will continue as directed until changed by another signal. A variety of commercially available fluidic devices is shown in the surrounding illustration.

Imagine a low-cost, reliable, no-maintenance control system which can *guide a tractor . . . select the correct gear automatically . . . adjust for offset loads on gang plows . . . compensate for crabbing on hillside operations . . . weigh bales of hay and tie them under constant tension . . . set engine speed and power for best economy.* All these and *many more* are potential uses of the new technology called "Fluidics."

A basic principle used in fluidics is that when a fluid moves along a surface, it will remain attached until deflected by an interrupting influence.

By C. H. Meile
Assistant Manager, Engineering Research
International Harvester Company

Fluidics is concerned with devices that can amplify, switch, count or sense without moving mechanical parts. They depend on fluid streams which interact to produce useful signals. This means a gas or liquid flow is used to replace electronic and mechanical parts in a control system. The name "fluidics" is a composite of "fluid" and "logic."

The idea of using low-pressure fluid power to control a higher pressure force is not new. But until now, this was done with movable or deformable parts. This new technology—fluidics—can do this amplifying with no moving mechanical parts.

To illustrate, one of the simplest fluidic principles is performed when one blows out a candle. A wisp of air turns off the light. Or, if the candle were heating water, a wisp of air stops the boiling. This is using a fluid to control energy.

How fluidics works. There are two basic effects of fluid streams used in fluidic devices. One is diverting the main stream, which takes place when air is blown through a tube. This is well known. Another effect, however, is not so well known. That is, when an air stream is directed along a wall it will cling to the wall, even if the wall is curved. The stream will continue "attached" to the wall even after the control signal (wisp of air) is removed.

A simple analogy is to observe a liquid pouring from a glass lip. The fluid tends to cling to the lip and actually curls under before detachment. This phenomenon of fluids was first observed 60 years ago by a young aerodynamics engineer named Henri Coanda. Recent space-age research has applied the Coanda effect to fluidics.

By combining these principles in a variety of fluid passage shapes, one can duplicate all the functions of electronic controls. This includes temperature and speed sensors, position indicators, flip-flop switches, counters, amplifiers, oscillators and the like. Fluidic devices can be made to amplify pressure, flow and power.

How can fluidics help farming? Though not ready for mass production in farm equipment, experimental fluidic circuits are now being tested to perform many functions. Tractor guidance, automatic monitoring of machine operations as in combines, and controls for loader buckets and scraper blades are examples.

Fluidics is already being applied to the control of aircraft turbine engines and machine tools. Rapid advances in fluidic computers are also being made, and though not as fast as electronics (electronics speed is limited by the speed of light, fluidics speed is limited by the speed of sound), response is fast enough for all practical purposes.

Eventually, a fluidic computer may be the most reliable answer for mixing feeds for livestock, with a totally automated system for timing and distributing the feed—unattended by human beings.

New fluidic applications could include nonmechanical oscillators for tillage tools to reduce drawbar loads. Fluidics can be used to select and grade fruit and vegetable crops. Fertilizer placement and quantity control would be fool-proof and low cost. In fact, most any function relating to electromechanical or hydraulic control can use fluidics.

A variety of fluidic elements made of plastics, metals and ceramics are now available. Experimental circuits are made by interconnecting these elements with tubing — in "breadboard" fashion like the early electronic circuits for guidance control.

When fully developed, the circuits can be integrated into a single block containing dozens of elements and mass produced at low cost. They are not affected by weather, temperature, vibration or shock. In fact, the only failure could be plugging from dirt which is easily prevented by use of filters.

It can all add up to better farming with less waste, less loss of time—a practical possibility because of the potential low cost and non-wearing features of fluidics.

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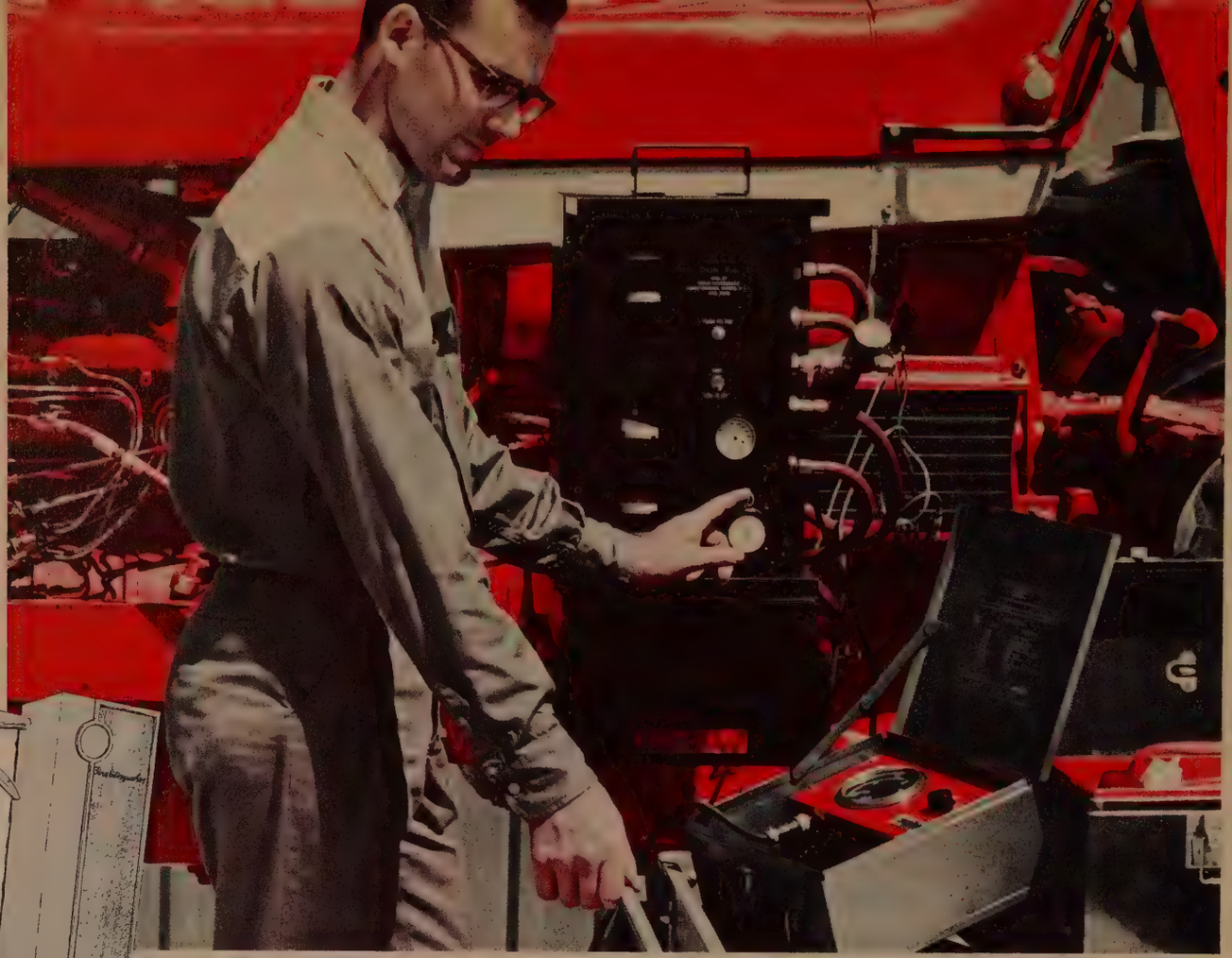

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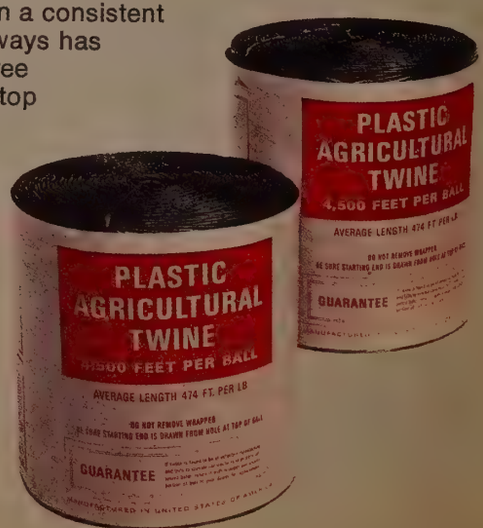


ASPARAGUS Mechanical cutting has caught on

Jim Leonard played and coached football before turning his talents to growing and harvesting asparagus. From Notre Dame, where he played under the fabled Knute Rockne, he moved up to the pros with Philadelphia. His coaching career included five years at Villanova and five years with the Pittsburgh Steelers, the last three as head coach.

Sam Casella, Leonard's assistant, looks over fresh-cut asparagus before it leaves the field for the canning plant.

"It sure beats hand cutting," observed burly Jim Leonard as he gestured toward the seven International F-656 Hydrostatic tractors pulling two-row mechanical cutters at six to eight miles an hour down long rows of asparagus.

Jim is supervisor of asparagus harvesting for Draper King Cole, Inc., of Milton, Delaware, and the mechanical harvesters represented only seven of the 15 they own and operate. The tractors were seven of the 12 new F-656 Hydros purchased for the 1970 season.

King Cole was the first canner to convert 100 percent to mechanical harvesting. "It's been five years since we've done any hand cutting," recalls Leonard. "The trick is in knowing precisely when to harvest," he explains. "That's because the machines are not selective. They get it all."

Though yields may be somewhat reduced, King Cole finds they have no more damage to the tender asparagus spears than they used to have with hand cutting. And they think mechanically-harvested beds will last longer.

King Cole's main reason for going to mechanical harvesting is the lack of adequate hand labor and its accompanying high cost. One machine behind an International 656 Hydro can cut more than four acres an hour where it takes an extra good man all day to hand-cut three acres. And tractors and mechanical cutters don't care how thick the asparagus or how hot the weather—they just keep on cutting.

Hydrostatic tractors ideal for harvest. "Hydrostatic drive is the greatest thing I ever saw," says Leonard enthusiastically. "It eliminates a lot of the trouble we've had with standard transmissions because of a tendency to frequently ride the clutch during harvest operations. It's also easier for us to maintain harvesting efficiency as there's less time lost and more asparagus saved in keeping ground speeds matched to field conditions."

Any way you look at it, this tractor-mechanical cutter combination is a winner for Draper King Cole, Inc.

Mrs. Gasson's Vermont

R.F.D. #3
St. Albans, Vermont 05478

Dear Sirs:

I enjoyed reading the Fall 1969 issue of International Harvester FARM—the issue on "Farming With the Feminine Touch."

Women were mentioned from Illinois, Kentucky and Washington but none from Vermont. Of course, our farm acreage doesn't begin to compare in size with the farms mentioned.

Our dairy farm is composed of 323 acres in the beautiful Champlain Valley in northwestern Vermont. My grandparents, my parents, and my husband and I have farmed here. Three generations of farming will end with us—our son-in-law, after having served in the Navy, is now studying engineering.

My father bought a 10-20 tractor in 1929 and an H in 1943. My husband bought an M in 1956 and a 300 in 1958. We still have them all. The 10-20 was last used to power a blower for filling our silo.

Before our daughter left home, she drove the tractors picking up baled hay and raking during her vacations. I had pneumonia one winter. Medicines didn't help me, but fresh air and sunshine did. Gradually, I began taking over her job of driving the tractor.

I loved it—the fresh, clean air, the warmth of the sun, the smell of the hay (if it could only be bottled!), the beauty of the green fields, the black-and-white cows in the brook pasture, the blueness of the Adirondacks in the distance, the wooded hills in the other direction, the teenagers growing strong and tanned as they pile hay on the wagons—to me, this is the way to live!

After the winters we've had, and especially our last one — believe me, I look forward to haying. Many women I know who range in age from teenagers to grandmothers enjoy working outside — some even operate balers.

I've heard women say they couldn't wait to get out on a tractor—now I know what they mean!

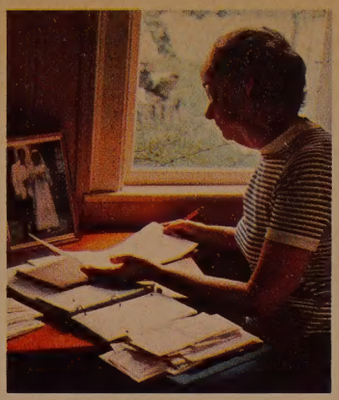
Yours truly,

Kathryn T. Gasson

Editor's Note:

When Mrs. Stewart Gasson wrote to IH FARM after reading our feature "Farming With the Feminine Touch" in the Fall 1969 issue, her letter aptly captured the thoughts of a farm wife whose generation is the last to farm the land.

We've asked Mrs. Gasson's permission to publish her letter. Although larger farms provide most of the success stories for our leading farm publications, farms the size of the Gassons' make their own contribution to agriculture. More importantly, families such as the Gassons preserve some of the qualities of farm living that seem to disappear when farming changes from a way of life to a way of business.



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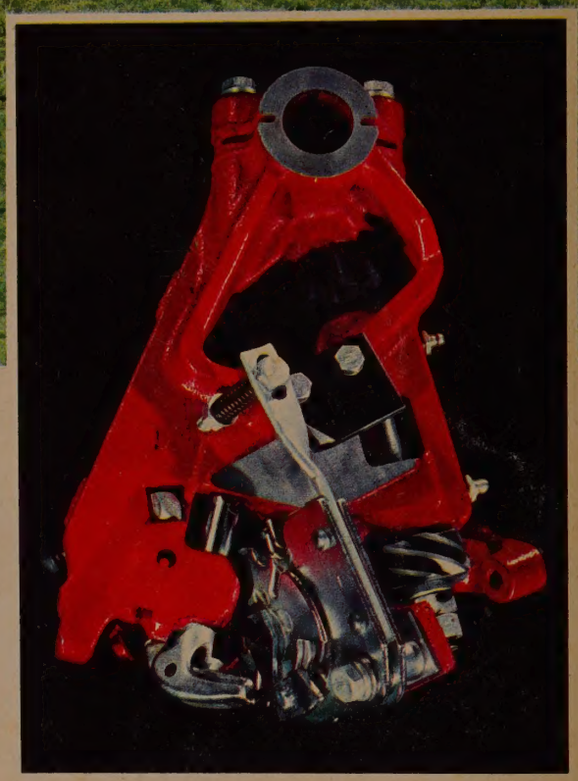

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